

REMARKS

In response to the Final Office Action mailed on September 9, 2004, Applicants respectfully request reconsideration and allowance of this application as amended herein.

Claims 1, 5, 15, 19, 29 and 33 have been amended, and claims 2-4, 6-8, 16-18, 20-22 and 30-31 have been cancelled. Claims 1, 5, 9-15, 19, 23-29 and 32-35 are pending. It is submitted that the present amendment places this application in condition for allowance or, in the alternative, in better form for appeal, and therefore it is believed that entry of this amendment is proper at this stage of the proceedings.

Claim 1 has been amended to include the features previously recited in claims 2-4, which have been cancelled. Thus, claim 1 is now identical to previous claim 4, which was last in the string of claims 1-2-3-4. A similar amendment has been made to claim 15, which is now the same as previous claim 18. All of the other independent claims have been amended to recite the same features now recited in claims 1 and 15. Thus, with respect to at least these claims, no new issues are presented.

In the Final Office Action, the rejection of claims 1-33 was maintained, and previously added claims 34-35 were rejected, based on the Pomerantz reference and certain "admitted prior art" in the Background. These rejections are respectfully traversed with respect to the claims as amended herein.

Initially, it is noted that on November 4, 2004, a telephone discussion was held between Examiner Lamarre and representatives of Applicants, Mr. Barry Chapin and Mr. Jim Thompson. Mr. Chapin and Mr. Thompson proposed the current amendment and attempted to point out to the Examiner how the cited art fails to teach or suggest the subject matter of the independent claims as proposed to be amended. No agreement was reached. The remarks by Mr. Chapin and Mr. Thompson included a re-assertion of points made in Applicant's amendment of June 10, 2004 and a rebuttal of certain statements made in the Final Office Action. These remarks are essentially repeated in writing below.

The Examiner is respectfully urged to carefully consider these remarks, and to withdraw the present rejection and allow this application if the remarks should be found convincing.

All of the pending independent claims include a feature such as the following recited in claim 1:

*converting each application error checking information M-byte value into a corresponding N-byte value such that the data storage error checking information is in a compatible format with and can be compared with the application error checking information;*

It is respectfully submitted that neither the "admitted prior art" nor the Pomerantz reference teaches or suggests such a feature, and therefore these references cannot render any claim containing this feature unpatentable.

The Background of the present application describes two distinct techniques known in the prior art. First, it is known in hardware and software systems to employ a checksum value in a packet header for error-checking purposes. When a packet is received, the receiving device calculates a checksum from the data of the packet and compares this value with the value of the checksum in the packet header. If the two checksums are the same, it is an indication that the packet is error-free. If the two checksums differ, it is an indication that the packet contains an error.

Second, conventional software applications, such as Oracle database software, embed error checking information in application data blocks. The error checking information is stored in the database as part of the application data block. When the application data block is subsequently read from the database, error checking information is computed based on its contents, and this error checking information is compared with the original error checking information that was stored with the application data block. A difference between the two sets of error checking information indicates that the application data block may contain an error.

Neither of these techniques discussed in the Background include any conversion of error checking information from one format to another. This view seems to be in accord with the view expressed in the Final Office Action.

As has been described previously, Pomerantz shows a method of carrying out a "data in burst" (i.e., a read request) from a storage device to a host. Storage control logic 140 receives a cyclic redundancy check (CRC) value from the storage device, and also calculates a CRC value during the transfer. There is nothing in Pomerantz that indicates that these CRC values are of different/incompatible formats, nor is there any description of converting one CRC value into another format compatible with the other CRC. It appears that the CRC values are the same format and are compared directly as received and calculated.

In support of the rejection of claims 2-35 (which include claim 4), page 4 of the Office Action refers to various sections of Pomerantz. However, it is respectfully urged that none of the cited sections teaches or suggests "*converting each application error checking information M-byte value into a corresponding N-byte value such that the data storage error checking information is in a compatible format with and can be compared with the application error checking information*", as recited in claim 1 and the other independent claims.

For example, col. 3 line 48 et seq. of Pomerantz describe that a host validates a demand portion of a data transfer by comparing an error code calculated by the device with an error code calculated by the host. In one embodiment, a 16-bit CRC code can be used. There is no indication that the host and device employ different-sized codes such as *m*-byte and *n*-byte checksums. In fact, it can be inferred that the host and device employ the same 16-bit format for the CRC codes. No conversion of the error codes is either described in this section of Pomerantz or is seen to be necessary.

Page 4 of the Final Office Action also refers to col. 2, lines 48 et seq. of Pomerantz. However, the cited section is the Brief Description of the Drawings. This section of the Office Action also states that Pomerantz "teaches data

compatibility via data/CRC partitioning means for more efficient data transfer, intermediate data/CRC sizing/detecting means followed by potential final data/CRC sizing/detecting means, which entails equivalent M-byte to N-byte conversions and logic adding means or module-based operations via EXOR means."

It is unclear from these statements of the Office Action what specific aspect of Pomerantz is being referred to, and how claim 4 is being read on such specific aspect of Pomerantz. With respect to the "data/CRC sizing/detecting means", the term "sizing" is commonly understood to mean "selecting a size". However, Pomerantz does not show any such selecting of a size of a CRC code. Moreover, selecting a size *per se* would not meet the claim element anyway, because the claim requires converting each application error checking information M-byte value into a corresponding N-byte value such that the data storage error checking information is in a compatible format with and can be compared with the application error checking information. As has been explained, Pomerantz does not teach any such converting of checksum values.

Based on the foregoing, it is believed that all the claims of this application are presently in condition for allowance. Favorable action is respectfully requested.

If the present rejection is maintained notwithstanding the amendment and remarks herein, it is respectfully urged that the Examiner provide a clearer indication of the precise language in Pomerantz on which the above-cited claim language is being read. Such a specific indication would be very helpful to clarify the issues for purposes of an appeal or other further action by Applicant.

It is believed that no fee is due for this amendment. If the U.S. Patent and Trademark Office deems a fee necessary, this fee may be charged to the account of the undersigned, Deposit Account No. 50-0901.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 366-9600, in Westborough, Massachusetts.

U.S. Application No.: 09/691,490

Attorney Docket No.: EMC00-22(00076)

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Respectfully submitted,

A handwritten signature in cursive script, appearing to read "James F. Thompson", is written over a horizontal line.

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